Subject: Problem with CharmoniumTutorial and Geant4
Posted by Tobias Weber on Fri, 05 Nov 2010 13:11:28 GMT
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Hej,

After installation of the external packages (jan10) and PandaRoot (trunk rev. 10230), I get the following error message using Geant4 as MC Version:

-W FairPrimaryGenerator: PDG code 30443 not found in database. This warning can be savely ignored.
Warning in <TParticle::SetPdgCode>: PDG code 30443 unknown from TDatabasePDG
-I FairPrimaryGenerator: 7 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)

TG4PrimaryGeneratorAction::TransformPrimaries:
G4ParticleTable::FindParticle() failed for XXX pdgEncoding=30443.
*** TG4Exception: Aborting execution ***

If I use Geant3 instead everything goes fine. Can you reproduce this error and may offer me some help?

Cheers,
Tobias

Subject: Re: Problem with CharmoniumTutorial and Geant4
Posted by StefanoSpataro on Fri, 05 Nov 2010 16:19:15 GMT
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In theory particle 30443 should not be propagated inside the transport model, or at least not in geant3.
Maybe this is not done properly in geant4, I would suggest to experts to take a look.

For you, it should be enough to comment out the line:

EvtGen->SetStoreTree();

(hopefully)

Subject: Re: Problem with CharmoniumTutorial and Geant4
Posted by Jens Sören Lange on Fri, 05 Nov 2010 16:37:53 GMT
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Hi Tobias, I should say that the tutorial was never really working with Geant4. It means: even if we find what the crash in the event generation causes, there will be problems later in the chain. In particular, (a) we never understood the strange E/p for pions (only in G4) in the pid step, and we had crashes for (b) dpm and G4 and (c) PHOTOS and G4. It is even posted in the forum in the "bugs, fixes, and releases". The interesting observation is: if these crashes ((b) or (c)) appear, you just run the macro again, and suddenly it is fine (in other words, the crash seems to be depending on some random seed in G4).

Anyway, maybe now is a good starting point to find out. I have the feeeling that it could have something to do with the changes in the MC stack. I remember we discussed on some meetings to put in the EvtGen primary particles (30443 is the psi', I think) - even though they are already decayed, when the Geant starts - for the later MC truth matching (-> to check, if my reconstructed psi' was really a generated psi'). So they must be on the stack, but must be ignored by Geant. The idea was to flag them, so that they are not transported. Let's try to find out.

Soeren

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Subject: Re: Problem with CharmoniumTutorial and Geant4
Posted by Tobias Weber on Fri, 05 Nov 2010 17:56:43 GMT
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Hi Stefano,

After commenting out the SetStoreTree(), Geant4 finishes without showing errors or warnings. Thanks

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